



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,533	09/15/2000	Simon Peter Valentine	3 Com - 81 (3022US)	1915

7265 7590 05/24/2004

MICHAELSON AND WALLACE  
PARKWAY 109 OFFICE CENTER  
328 NEWMAN SPRINGS RD  
P O BOX 8489  
RED BANK, NJ 07701

EXAMINER

NG, CHRISTINE Y

ART UNIT	PAPER NUMBER
----------	--------------

2663

DATE MAILED: 05/24/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/662,533

Applicant(s)

VALENTINE ET AL.

Examiner

Christine Ng

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being unpatentable over U.S. Patent No. 5,734,824 to Choi.

Referring to claim 1, Choi discloses in Figures 5 and 7 a method for discovering the topology of a network comprising initially resolving the positions of the end stations (end stations; Figure 5, Elements S1-S6) and subsequently resolving the topology of the remaining devices (Bridges and LANs; Figure 5, Elements 50-54 and 40-46). As shown in Figure 5, each port (Elements 50a-54a, 50b-54b and 54c) is associated with a bridge (Elements 50-54) and a filtering database (Elements 71-75). Each filtering database (Elements 71-75) "records from which port a message enters the bridge as well as which station was the sender for that message" (Column 10, lines 57-59) until eventually, each filtering database (Elements 71-75) "will indicate which ports on a particular bridge are associated with which stations" (Column 10, line 67 to Column 11, line 1). After the positions of the end stations are resolved, the topology of the remaining devices (Bridges and LANs, Elements 50-54 and 40-46) are resolved. Refer to Column 13, lines 12-14 and Column 16, lines 5-12. As shown in Figure 7, a network management module (NMM) associated with each LAN determines the topology of the

bridges and LANs by sending adjacency requests PDUs to other NMMs, in order to determine which LAN is adjacent to another LAN (separated by one bridge). Refer to Column 13, line 65 to Column 14, line 4 and Column 16, lines 13-52.

Referring to claim 2, Choi discloses in Figure 5 that the step of initially resolving the positions of the end stations (Elements S1-S6) comprises, for each managed device (Bridges, Elements 50-54), determining which ports (Elements 50a-54a, 50b-54b and 54c) are only connected to an end station (Elements S1-S6). Each port (Elements 50a-54a, 50b-54b and 54c) is associated with a bridge (Elements 50-54) and a filtering database (Elements 71-75). Each filtering database (Elements 71-75) "records from which port a message enters the bridge as well as which station was the sender for that message" (Column 10, lines 57-59) until eventually, each filtering database (Elements 71-75) "will indicate which ports on a particular bridge are associated with which stations" (Column 10, line 67 to Column 11, line 1).

Referring to claim 3, Choi discloses in Figure 7 that the step of resolving the topology of the remaining devices (Bridges and LANs, Elements 50-54 and 40-46) comprises querying for each managed device (LAN and designated bridge, Elements 40-46 and 50-54), which ports have learnt the address (Bridge ID, Port Number) of another managed device (LAN and designated bridge, Elements 40-46 and 50-54). Each LAN is assigned an address (Bridge ID, Port Number) indicating the ID of its designated bridge and port number. For example, the address for LAN 40 is "10,1" indicating that LAN 40 is connected to port 1 of bridge 50 (bridge 50 has a bridge ID of 10). Refer to Column 20, lines 55-65. A network management module (NMM)

associated with each LAN determines the topology of the bridges and LANs by sending adjacency requests PDUs to other NMMs in order to determine which LAN is adjacent to another LAN (separated by one bridge). Refer to Column 13, line 65 to Column 14, line 4 and Column 16, lines 13-52. As shown in Figure 9A, each NMM then establishes an adjacency database (Figure 9A) showing all of the LANs to which it is connected to (Figure 9A, Elements 903-908), using the LAN ID. Refer to Column 20, lines 19-35. Figure 9B shows a compilation of all of the adjacency databases from all LANs. As shown in Figure 9B, lines NMM 81 and 84, port 1 of bridge 10 (LAN ID 10,1) has learned the address of LAN 42 (LAN ID 20,2) and LAN 44 (LAN ID 10,2), whereas port 2 of bridge 10 (LAN ID 10,2) has learned the address of LAN 40 (LAN ID 10,1) and LAN 48 (LAN ID 30,2).

Referring to claim 4, Choi discloses in Figure 3 a computer program on a computer readable medium loadable into a digital computer (NMM), the program including software for carrying out the method of claim 1. The NMM "is a separate computer system having data and command process capabilities in order to execute software comments" (Column 6, lines 44-47). After the positions of the end stations are resolved, "the processing to discover the total active topology of the IEEE 802.1D bridges and LANs is performed within each designated NMM of each LAN" (Column 13 lines 18-20). The NMM is capable of performing the method of claim 1 via a "microprocessor 101 executing program steps stored in RAM 102 and/or ROM 103 that act to analyze message data entering from the signal generation port 108 of each NMM" (Column 13, lines 29-32). Refer to Column 7, lines 21-47 and Column 13, lines 26-46.

***Allowable Subject Matter***

3. Claims 5 and 6 are allowed.

***Response to Arguments***

4. Applicant's arguments filed April 1, 2004 have been fully considered but they are not persuasive.

In response to the argument that the methodology of Choi does not determine network topology down to the end station port level (Page 12, lines 1-6), Choi discloses "the filtering databases 71-75 will indicate which ports on a particular bridge are associated with which stations" (Column 10, line 67 to Column 11, line 1). Refer to Column 10, lines 56-66 where Choi discloses how the filtering databases record "from which port a message enters the bridge as well as which station or NMM was the sender for that message". The filtering databases therefore determine network topology down to the end station port level.

In response to the argument that the methodology of Choi does not link the stored filtering databases to the determination of network topology (Page 12, line 25 to Page 13, line 13 and Page 13) and that the information in the stored filtering databases are not used to determine network topology (Page 13, line 32 to Page 14, line 3), Choi discloses that the stored filtering databases will eventually stabilize. Once stabilized, the filtering databases will "indicate each station associated with each particular port of a bridge" (Column 12, lines 17-18) in addition to providing "a unique pathway between communicating stations" (Column 12, lines 50-51). The construction of the unique pathways in the filtering databases are used "in order to generate the active topology of

the transparent bridges and LANs" (Column 13, lines 12-14). Choi also states that that one of the steps in the determination of the network topology is the "identification of adjacent LANs utilizing end station pathways created by the filter databases" (Column 15, lines 60-61). The filtering database are allowed to stabilize before the active topology data is determined. Refer to Column 16, lines 5-12. The filtering databases of the end stations are therefore used to determine network topology of the LANs and bridges.

In response to the argument that the Choi patent only partially resolves the positions of the end stations (page 14, lines 10-22), Choi discloses "the filtering databases 71-75 will indicate which ports on a particular bridge are associated with which stations" (Column 10, line 67 to Column 11, line 1) and that "the filtering databases will stabilize and indicate each station associated with each particular port of a bridge" (Column 12, lines 16-18). Though the Choi patent does not disclose details "as to how LAN 5 (42) and the position of the ports S1 and S2 are resolved" (Page 14, lines 21-22), claim 1 only states resolving the positions of end stations on the network, and the positions of S2 and S1 are resolved to be connected to LAN 5 (42).

In response to the argument about managed devices (page 14, line 23 to page 15, line 2), Choi discloses in Figure 7 a method for determining the positions of LANs and bridges through NMMs, the method of which is described in Column 13, line 47 to Column 14, line 36. Furthermore, the argument states that the Choi patent does not show "how bridge 52 determines what port of the LAN 40(2) to which end station S4 is connected or what port in that LAN connected to port 50a of bridge 1 (50) through which

end station S3 communicates...” (page 14, line 28 to page 15, line 2). However, claim 1 only states that after determining the positions of the end stations, the topology of the remaining devices are determined. After the positions of the end stations are determined through filtering databases, the topology of the LANs and bridges are determined. Refer to Column 15, lines 60-61 and Column 16, lines 5-12. Each LAN is given a LAN ID which is “composed of a 6 byte bridge ID as well as a two byte port ID” (Column 20, lines 31-32). Refer to Column 20, lines 19 to Column 21, line 7 which describes how a LAN determines what ports of a bridge it is connected to.

Referring to claims 2-4, refer to the rejection of claim 1.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



Art Unit: 2663

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (703) 305-8395. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Chau can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng  
May 18, 2004



CHAU NGUYEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600